the function of taste remained unimpaired. The mouth was drawn to the left side, distorting the face. His articulation continued thick and indistinct.

"*Remarks.*—The situation and depth of the wound in the above case, as well as the profuseness of the hemorrhage and the extreme difficulty of controlling it by pressure, plainly indicated that a large artery had been divided. The external carotid artery and certain of its branches, as well as the internal carotid, lay close together in the region occupied by the track of the wound, and it was impossible to say which of them might be involved.

"In the choice of means for arresting permanently the hemorrhage, the following considerations were carefully weighed:—

"1st. In reference to securing the divided vessels in the wound. This undoubtedly would have been the most reliable method, and is the one prescribed by the rules of surgical practice. It is not, however, always admissible. Obstacles may exist, depending on the inaccessible location of the wounded vessel, or other equally insurmountable difficulties. In this case, the wounded vessels lay deep in a narrow space bounded anteriorly by the ramus of the lower jaw, and posteriorly by the mastoid process and the sterno-mastoid muscle, which presented unyielding barriers that forbade any distension of the edges of the wound, even had it been admissible to enlarge it by incision. The exposure of other larger vessels to be wounded in attempting this operation, and the extreme difficulty of controlling the hemorrhage by compression of the common carotid during the operation; these were all weighty reasons, that deterred from resorting to this method.

"2d. Ligature of the common carotid. This is the resource heretofore most generally relied upon in wounds of the neck, when tying the wounded vessels has been inadmissible. Though it has succeeded in many cases, yet it has not unfrequently proved ineffectual, and that oftener, no doubt, than the records of surgery disclose. The free communication between the internal carotids of either side through the circle of Willis, permits a return current to be promptly established through the internal into the external carotid and its branches of the same side, after the ligature of the common trunk. This was illustrated in the writer's own experience a few years ago, in a case of self-inflicted wound of the throat, exposing the left thyroid cartilage. A profuse secondary hemorrhage occurred at the expiration of five or six days, for which the common carotid artery was tied. One hour had scarcely elapsed before the hemorrhage recurred almost as profusely as at first. Compression kept up by means of a succession of assistants was relied on for three or four days longer, when a third repetition of the hemorrhage rendered it necessary to resort to other means. The original wound was now enlarged and explored, and after much difficulty, the bleeding vessel was secured. It was found that a small false aneurism had developed itself at the bottom of the wound around the divided vessel. Another consideration that dissuaded from the operation of tying the common carotid artery alone in this case, was the fear entertained that the internal carotid might itself be wounded.

"The novel operation which was resorted to in this instance, and which was so successful, was thought to be adapted to any contingency that might exist. By cutting off simultaneously the direct current through the common carotid and the return current through the internal carotid, hemorrhage from a wounded branch of the external carotid would be effectually controlled; and in the event of a wound of the internal carotid, the circulation would be rendered stagnant in that vessel by the ligature applied to it near its origin, and the process for its permanent closure would be secured by the simultaneous ligature of the common carotid."

On the Use of Sulphate of Cinchonia, as a Substitute for the Sulphate of Quinia.—Dr. R. P. Thomas exhibited to the College of Physicians of Philadelphia (Oct. 3), some beautiful specimens of the three alkaloids, quinia, cinchonia, and quinidia, the active principles of the Peruvian bark, or cinchona of the Pharmacopœia; as also specimens of their respective sulphates.

The quinia was pulverulent, and of a pure white colour. The cinchonia had been prepared with great care, so as to secure its crystallization. The crystals assumed the form of four-sided prisms. The quinidia had been obtained with an equal degree of care, and was, in like manner, in the form of prismatic crystals. The sulphates exhibited the characteristic crystals peculiar to each.

After some brief remarks upon the appearance, solubilities, and chemical nature of the specimens, Dr. Thomas observed, that the importance of obtaining an efficient substitute for the invaluable quinia is daily becoming more apparent and more urgent.

Heretofore our supplies of the barks yielding this drug have been exclusively limited to, and derived from, the countries on the western coast of South America, and, more particularly, from Peru and Bolivia; the latter State furnishing the greater part of the true Calisaya, or yellow bark.

From time to time, monopolies for the exclusive cutting of the trees have been granted by the governments temporarily existing, to moneyed capitalists and companies, who could only realize a profit, after paying the exorbitant bonuses required, by an indiscriminate felling of all of the trees within reach, without reference to, and irrespective of any provision for future supply.

The bark of the root, which is probably very rich in the active principles, and that of the smaller branches, are rejected. The former, on account of the time and labour required for digging it up, and the latter, for the comparatively small yield of the alkaloids.

By this wasteful and destructive method, vast sections of country have already been stripped, without a full development of their resources. And, according to Dr. Weddell, who speaks from personal observation, the waste is as great at the present day as it has been at any former period.

Another reason for calling the attention of the Fellows to the importance of finding a substitute for quinia, is to be found in the fact that our national Pharmacopœia recognizes the barks from the western coast of South America, only, as officinal. And, on this ground, the drug inspectors of Philadelphia and other ports have actually refused admission to barks from the northern coast, even when they have contained a large percentage of alkaloids, other than quinia.

Of course, a new and inexhaustible supply of efficient barks will at once be opened to us from the latter regions, if experience shall prove that cinchonia and quinidia (which they yield so abundantly) approach quinia in virtues, even though it be but approximatively.

Foremost in the rank of efficient substitutes yet discovered, must, I think, be placed the sulphates of quinidia and cinchonia.

The former article is now being tried extensively, both in this country and abroad, as well in hospital as in private practice.

The latter article—the sulphate of cinchonia—was tried on a limited scale many years ago in the hospitals of Europe, but did not attract much attention. Again it is coming into vogue, and seems to promise results of a valuable character.

In the year 1852 it was introduced in the Pennsylvania Hospital with a success warranting more extensive trials, as shown by a valuable paper on the subject, published by Dr. Pepper, one of the physicians of that institution. In the two following years its use was continued by Drs. Pepper and Gerhard with similar success. The present season they are employing the sulphate of quinidia, the efficacy of which will doubtless soon be made known.

In *Ranking's Abstract* for June, 1855, is a statement that M. Hudellet, Physician to the Hospital at Bourg, had commenced the use of the sulphate of cinchonia in March, 1853, and, "since this time, quinine has been almost altogether supplanted. He gives from four to six grains of the sulphate of cinchonia in solution, adding to the first three or four doses from ten to twenty drops of laudanum, and the result is that, out of 507 cases of intermittents of all kinds, all were cured except nine. This mode of treatment did not cause any disorder, either in the stomach or the head. Relapses were neither more nor less common than after quinine; and the spleen was affected in the same way, and to the same degree, as by quinine."

To some, this statement may appear to be bordering on the extreme, but it shows at least that the article must be possessed of decided efficiency, or the experiment would not have been continued for a period of two years, and in more than five hundred cases.

To give the cinchonia a fair trial, a number of medical Friends, connected with various public charities here, united with me in prescribing it in all, or nearly all of the cases that presented, and in which quinia would otherwise have been given. The result has been very satisfactory.

In the Western Clinical Infirmary, the supply of quinia having become exhausted on the first of June last, the sulphate of cinchonia was exclusively introduced into the house by general consent of the medical officers. Consequently it has been used there as a tonic in ordinary cases, and as an anti-intermittent in the neuroses of a periodical character, as well as in the common intermittent and remittent fevers.

By the register, it appears that ten cases of remittent and one hundred and nine of intermittent fever have been under treatment. These were mostly of the mild type prevalent this fall, and, with a single exception, all recovered. The number of relapses has not exceeded that usually observed after the employment of quinia. In fact, the prescribing officers express much confidence in the anti-periodic properties of the cinchonia.

As to the mode of administration, no uniform rule is observed. One gives twelve grains in solution at a single dose, and directs two grains night and morning for four or five successive days, and particularly on the eighth, fifteenth, and twenty-first days. Another prescribes two grains every hour, on the morning of the expected chill, until ten grains are taken, and half of the quantity upon the intermediate days. A third prescribes it in the pilular form in combination with impure piperin, or, with the fluid extract of black pepper.

At the Philadelphia Hospital, it has been tried by some of the assistant physicians, with much benefit in a large number of cases of disease of malarious origin, but, as their particular history is not yet made out, I can only give this general statement.

At the Philadelphia Dispensary, a fair trial has been given it in all those walking cases of intermittent fever, capable of visiting the house during the intermission. These, amounting to one hundred and two in number, have been treated, and the results carefully observed by Dr. George Martin, who has kindly prepared the subjoined tables exhibiting the results. He remarks:—

"Our formula for administering the sulphate of cinchonia is the following:—
℞.—Cinchoniæ sulphatis gr. xxxij; tincturæ ferri chloridi f℥ss; aquæ f℥iv.
S.—Dose, one to three teaspoonfuls, *pro re nata*.

"The first column of quantity in the table gives the number of ounces of the above mixture required to check the chills, the second, the whole number taken. In most of the cases, when more than two ounces were required to check the disease, it was owing to the patient not having taken it according to the directions. We order two ounces of the above mixture, and direct the whole to be taken in divided doses before the anticipated paroxysm. We have not unfrequently given three drachms at a dose, always diluted with water, and have never known any irritation to follow its administration when the directions have been complied with. In many of the cases, the disease had been running on at intervals for weeks and months, and when the difficulties that have to be encountered by the patients' not returning at proper times for their medicine are taken into consideration, it will certainly appear that the treatment has been followed by as good results as any that could have been adopted.

"I should have stated that in many of the cases of relapse, the disease returned while the patients were at work in the country."

Table of 102 *Cases of Intermittent Fever treated at the Philadelphia Dispensary, by Dr. George Martin, with the Sulphate of Cinchonia.*

[Each fluidounce of the solution used contained rather less than eight grains of the sulphate of cinchonia, and one fluidrachm of the muriated tincture of iron.]

No.	Date. 1855.	Age.	Sex.	Type.	No. of fluidounces taken to check the chills.	Whole number of fluidounces taken.	Result.	Remarks.
1	March 8	26	Male	Tertian	2	2	Returned.	The chill in No. 1 returned June 1, when 8 fluidounces more were given. July 1, a second return; 4 fluidounces given. Since which there has been no return.
2	" 8	21	"	"	2	6	No return of chill.	
3	" 12	40	"	Quotidian	2	6	"	
4	" 13	40	"	....	2	6	"	
5	" 17	..	"	Tertian	2	4	"	
6	" 22	31	"	"	2	6	"	
7	" 24	19	Female	"	2	4	"	
8	" 26	45	"	"	2	2	Returned.	No. 8. Return of chill, April 2, when 6 fluidounces were given; without subsequent relapse.
9	" 27	34	Male	"	2	4	No return.	
10	" 30	22	"	"	2	4	"	
11	April 2	25	Female	"	2	6	Returned.	No. 11. Return, April 21, when 2 fluidounces were given; no subsequent return.
12	" 7	22	Male	Quotidian	2	2	No return.	
13	" 7	10	"	Tertian	2	2	"	
14	" 9	12	Female	....	2	6	"	
15	" 11	40	Male	Tertian	2	2	"	
16	" 12	15	"	"	2	4	"	
17	" 16	29	"	"	2	2	"	
18	" 19	35	"	"	2	2	Returned.	No. 18. Return, June 20, when 10 fluidounces were given; without subsequent relapse.
19	" 20	25	"	Quotidian	2	2	"	No. 19. Return, June 11, when 4 fluidounces were given; without relapse.
20	" "	25	"	Tertian	2	2	No return.	
21	" 23	67	Female	"	2	4	"	
22	" "	27	Male	"	2	2	"	
23	" 26	21	"	"	2	2	"	
24	May 1	23	"	"	2	4	Returned.	No. 24. Return, May 24, when 6 fluidounces were given; without relapse.
25	" 3	20	"	"	2	2	No return.	
26	" "	28	Female	"	2	4	"	
27	" 8	20	Male	"	2	4	Returned.	No. 27. Return, June 13; gave 16 grs. of cinchonia and 8 grs. of capsicum in pill; no return.
28	" 9	45	"	"	2	2	Unknown.	
29	" 9	60	"	"	2	6	Returned.	No. 29. Return, May 26, when 8 fluidounces were given; without further return.
30	" 12	37	"	Quotidian	2	4	"	No. 30. Return, June 1 and 23, 6 fluidounces were given; without any further return.
31	" 14	23	"	Quartan	2	4	No return.	
32	" 15	19	"	Tertian	2	6	Returned.	No. 32. Spleen very much enlarged. Return, June 6. 8 fluidounces were given; without relapse.
33	" 17	25	"	"	2	2	No return.	
34	" "	19	"	Quotidian	2	2	"	
35	" 19	17	"	Tertian	2	2	Unknown.	
36	" 21	48	"	Quotidian	2	4	Returned.	No. 36. Return, June 14, when 8 fluidounces were given; no relapse.
37	" "	37	"	Quotidian	2	2	Unknown.	
38	" "	24	Female	"	2	4	Returned.	No. 38. Return, June 4, when 4 fluidounces were given; no relapse.
39	" 22	21	Male	"	2	4	No return.	
40	" 23	25	Female	Tertian	2	2	"	
41	" "	42	"	"	2	4	"	
42	" "	44	Male	"	2	4	"	
43	" 28	19	"	"	2	4	"	
44	" 30	40	Female	"	2	2	Unknown.	
45	June 1	23	Male	Quotidian	2	2	"	
46	" 1	24	"	Tertian	2	8	Returned.	No. 46. Return, July 4, when 6 fluidounces were given; without subsequent relapse.

Table of Cases of Intermittent Fever—Continued.

No.	Date.		Age.	Sex.	Type.	No. of fluidounces taken to check the chills.	Whole number of fluidounces taken.	Result.	Remarks.
47	June	6	18	Male	Quotidian	2	2	Unknown.	
48	"	21	27	"	"	2	2	Returned.	No. 48. Return, Aug. 19, when 4 fluidounces were given; no relapse.
49	"	"	38	"	Tertian	2	2	Unknown.	
50	"	22	30	Female	"	2	2	Returned.	No. 50. Return, July 21, when 4 fluidounces were given; no relapse.
51	"	"	25	"	"	2	2	"	No. 51. Return, June 29, when 6 fluidounces were given; no subsequent relapse.
52	"	25	27	"	Quartan	2	4	No return.	
53	"	27	12	Male	Quotidian	2	8	"	No. 53. In this case, the disease has appeared every summer for eight years.
54	"	30	13	Female	"	2	2	Unknown.	
55	"	"	40	Male	"	2	8	No return.	
56	July	7	55	"	Tertian	4	12	Returned.	No. 56. Disease of one year's duration. Return of chills, Sept. 13, when 4 fluidounces were given; no subsequent return.
57	"	11	24	"	"	2	2	Unknown.	
58	"	"	19	"	Quotidian	2	2	No return.	
59	"	12	40	"	Tertian	2	6	"	
60	"	17	50	"	"	2	2	Returned.	No. 60. Return, Aug. 9, when 2 fluidounces were given; no further relapse.
61	"	24	20	Female	Quartan	2	4	No return.	
62	"	25	18	"	Tertian	2	2	Unknown.	
63	"	29	18	"	"	2	2	Returned.	No. 63. Return, Aug. 15, when 4 fluidounces were given; no further relapse.
64	"	31	32	"	"	2	2	Unknown.	
65	Aug.	9	37	Male	Quotidian	2	2	No return.	
66	"	10	18	"	"	2	2	Unknown.	
67	"	14	17	"	"	2	4	No return.	
68	"	26	28	Female	"	2	4	"	
69	"	"	33	Male	"	4	8	Returned.	No. 69. Return, Sept, 13, when 4 fluidounces were given; no further relapse.
70	"	22	29	"	"	6	4	No return.	
71	"	23	26	"	Tertian	2	2	Unknown.	
72	"	24	22	Female	"	2	2	"	
73	"	25	26	"	"	2	4	No return.	
74	"	27	21	"	"	2	10	"	
75	"	"	20	"	"	2	4	"	
76	"	28	24	"	"	2	4	"	
77	"	30	23	Male	"	4	4	"	
78	"	"	21	"	Quotidian	2	4	"	
79	"	31	40	Female	Tertian	2	4	"	
80	Sept.	1	40	Male	Quotidian	2	6	"	
81	"	"	59	"	Tertian	2	10	"	
82	"	3	35	"	Quartan	2	2	Unknown.	
83	"	10	30	"	Tertian	2	4	No return.	
84	"	11	25	"	Quotidian	2	4	Returned.	No. 84. Return, Sep. 14, when 8 fluidounces were given; no relapse.
85	"	11	16	Female	"	2	2	Unknown.	
86	"	12	19	Male	"	2	2	"	
87	"	"	30	Female	"	2	2	"	
88	"	"	18	"	Quartan	4	4	Returned.	No. 88. Return, Oct. 8, when 6 fluidounces were given; no relapse.
89	"	15	43	Male	Tertian	2	2	Unknown.	
90	"	"	39	"	Quotidian	2	6	No return.	
91	"	"	41	"	"	2	2	Unknown.	
92	"	18	23	"	"	2	2	"	
93	"	21	20	"	"	4	4	Returned.	No. 93. Return, Oct. 8, when 6 fluidounces were given; no relapse.
94	"	22	19	"	"	2	2	Unknown.	
95	"	24	19	Female	Tertian	2	4	No return.	
96	"	"	30	"	Quotidian	2	2	Unknown.	
97	"	"	25	Male	Tertian	2	2	"	
98	"	25	17	Female	"	2	2	"	
99	"	26	25	Male	Quotidian	2	4	No return.	
100	"	27	20	Female	"	2	4	"	
101	"	28	11	Male	"	2	2	"	
102	"	"	34	"	"	2	4	"	

The value of all statistics depends entirely upon the ability and truthfulness of the observer. And the foregoing tables exhibit internal evidence of the care and observation of Dr. Martin, and of his perseverance in treating a series of cases running over a period of seven months with a single combination, and given always in a similar form.

It will be observed that the whole number of cases amounts to one hundred and two. Of these, fifty-four were absolutely cured, having no return of the chill. Twenty-five are reported as unknown, which means that the patients, after the final prescription, were lost sight of. Doubtless they, also, were all cured, or they would have returned for further treatment. A less careful observer than Dr. Martin would have had no hesitation in reporting them as cured. In twenty three the chill recurred. In one, at the end of three days; two, at seven days; four, at about two weeks; nine, at about three weeks; two, at one month; four, at two months; and one, at three months.

When it is borne in mind that dispensary patients belong to the labouring classes, who must return to their daily avocations as soon as they suppose the chills are checked, and thus expose themselves to the same causes that originally produced the disease, it cannot be a matter of surprise to find frequent returns recorded; particularly in a disease like intermittent fever, where the tendency to reappearance, independent of external agencies, is proverbial.

But the tables show one striking fact—in no single instance did the disease prove rebellious when the patient took larger quantities of the cinchonia and for a longer period. Every case of relapse was speedily cured by the same remedy.

The same tables enable us to draw an inference as to the average amount of cinchonia required in the treatment of ordinary fever and ague. Thus, in the seventy-nine cases, without relapse, the average taken by each patient was twenty-four and one-half grains.

In the twenty-three cases, with return of chill, the whole average was seventy grains to each patient, embracing all the period he was under treatment. In the total one hundred and two cases, the average was thirty-five grains to each.

A question may very naturally arise, how far the fluidrachm of muriated tincture of iron, contained in each fluidounce of the solution, contributed to the cure. This question, an enlarged experience with the sulphate of cinchonia in different forms of administration and with varied combinations, can alone determine. The reason for its use was based partly upon its affording a convenient mode of dissolving the sulphate of cinchonia, and partly upon the indication for the employment of iron in the anæmic habit of poor patients.

At the Northern Dispensary, the resident physician, Dr. Alfred M. Slocum, has been investigating the therapeutic effects of cinchonia during the last four months. In this period, seventy-six individuals have been treated for intermittent fever exclusively by this article. At the present time, not one of them is under care, nor has he any reason to suppose that a permanent cure has not been effected in every case. The proportionate number of returns of the chills was about the same as in the foregoing tables, or perhaps even less. A renewal of the remedy uniformly effected a cure.

He administered it according to the following formula: ℞.—Cinchoniæ sulphatis ʒss; acidi sulphurici aromatici guttas xl; aquæ f℥viij. Solve.

The dose usually given was a tablespoonful (two grains) every hour in the early part of the morning of the expected chill; and, for the four or five successive days, the same quantity three times a day.

After the chills were checked, he gave three grains of Vallet's mass three or four times daily for two weeks, either alone or in combination with one grain of the sulphate of cinchonia.

For the mere purpose of arresting the chill, Dr. S. has uniformly employed the simple solution above, thereby affording a proof that the cinchonia is possessed of inherent anti-periodic properties independent of all combinations.

A tabular statement of these cases could readily be prepared, but as they will probably be published in detail hereafter, such a statement would be premature here.